

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant:	JOO-SUN YOON, ET AL.	)
		) Group Art Unit: 2871
Serial No.	10/612,649	)
		) Examiner: Duong, Thoi V.
Filed:	July 2, 2003	)
		)
For:	REFLECTIVE-TRANSMISSIVE TYPE LIQUID	) Confirmation No.: 5474
	CRYSTAL DISPLAY DEVICE AND METHOD	)
	FOR FABRICATING THE SAME	)

**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

In response to the Final Office action mailed July 11, 2007 and the Advisory action mailed September 18, 2007, and in conjunction with the Notice of Appeal filed concurrently herewith, Applicants submit the following remarks in support of the Pre-Appeal Brief Request for Review:

**REMARKS**

The present submission is responsive to the Final Office action of July 11, 2007, in which Claims 1-7 and 14-18 are presently pending. Claims 1-7 and 14-18 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Applicants' Admitted Prior Art, Figures 1-4 (hereinafter "APA"), in view of Kubo et al., U.S. Patent No. 6,452,654 B2 (hereinafter "Kubo"). Applicants respectfully traverse the §103(a) rejections for the reasons stated below.

Independent Claims 1 and 14 similarly recite, *inter alia*,

a pixel electrode including a reflective electrode disposed on a transparent electrode and having an area less than the transparent electrode and defining a first region of the transparent electrode, a portion of the transparent electrode being exposed without being covered by the reflective electrode defining a second region, the second region of the transparent electrode including a first boundary and a second boundary,

wherein the first boundary is a boundary between the first and second regions, and the *second boundary is an exposed edge of the transparent electrode*; and

an orientation film coated on an upper surface of the pixel electrode and having an

orientation groove rubbed in a first direction *from the first boundary toward the second boundary.*”

Regarding APA, it is conceded in the Final Office action regarding Claims 1 and 14 at Page 5, that APA does not show “the second region including a second boundary where the second boundary is an *exposed edge of the second region.*” In fact, APA only discloses an uncovered region of the transparent electrode 14a completely surrounded by the reflective electrode 14b, thereby resulting in no exposed edge of the transparent electrode 14a.

Since APA does not teach the “second region,” nor the “second boundary” of the claimed invention, Applicants respectfully submit that APA necessarily does not teach or suggest an orientation film having an orientation groove rubbed in a first direction from the first boundary between the first and second regions, toward the second boundary being an exposed edge of the transparent electrode of Claims 1 and 14.

Additionally contrary to the claimed invention, the orientation groove 15a of APA is only shown in a direction *towards* a boundary between the transparent electrode 14a and reflective electrode 14b (i.e., considered as the “first boundary” of the claimed invention), from an exposed region of the transparent electrode 14b. (See, for example Figures 2-4 of APA.) That is, the orientation groove 15a of APA only teaches *opposite* to the claimed invention because the orientation groove 15a of APA is specifically in a direction *towards* the first boundary, and contrary to an orientation groove from the first boundary between the first and second regions and towards an exposed edge of the transparent electrode of Claims 1 and 14.

Regarding the secondary reference Kubo, the rejection details at Page 5 of the Final Office action rely on Kubo merely to teach a first boundary between the reflection region 22 and the transmissive region 20, and an exposed edge of the transparent electrode 21. Applicants respectfully submit that the rejection details cite no feature or element of Kubo relating to an “orientation film” and “orientation groove,” especially an orientation groove rubbed in a first direction from the first boundary (i.e., between the reflection region 22 and the transmissive region 20 of Kubo) toward the exposed edge of the transparent electrode 21 of Claims 1 and 14.

Applicants further respectfully submit that Kubo itself does not teach or suggest anything related to an “orientation groove” disposed on an upper surface of the pixel electrode 1/22/23 of Kubo. In Figs. 2, 7, 8B, 11B, 12B, 25, 31, 33 for example, there is no element “coated on an

upper surface of the pixel electrode,” let alone anything resembling an “orientation groove” of the claimed invention. Therefore, Kubo like APA, does not teach or suggest an orientation film having an orientation groove rubbed in a first direction from the first boundary between the first and second regions, toward the second boundary being an exposed edge of the transparent electrode of Claims 1 and 14.

Thus, since APA and Kubo, alone or in combination, fail to teach or suggest an orientation film having an orientation groove rubbed in a first direction from the first boundary between the first and second regions, toward the second boundary being an exposed edge of the transparent electrode of Claims 1 and 14, *prime facie* obviousness does not exist regarding at least Claims 1 and 14, with respect to APA and Kubo.

Additionally, Applicants respectfully submit that *prime facie* obviousness further does not exist regarding at least Claims 1 and 14, with respect to APA and Kubo because there exists no suggestion or motivation to modify or combine APA and Kubo to teach the claimed invention.

Firstly, for all the reasons discussed above, APA only teaches *contrary and opposite to the claimed invention* regarding an orientation groove, because the orientation groove 15a of APA is specifically in a direction *towards* the first boundary, which is contrary and opposite to an orientation groove from the first boundary between the first and second regions and towards an exposed edge of the transparent electrode of Claims 1 and 14. Since APA only teaches the orientation groove 15a in a direction *towards the first boundary* between the transparent electrode 14a and reflective electrode 14b, there exists no suggestion or motivation in APA, nor to one of ordinary skill in the art to include the orientation groove 15a of APA *from the first boundary* between the transparent electrode 14a and reflective electrode 14b, as claimed.

Furthermore, since APA only teaches the transparent electrode 14a completely surrounded by the reflective electrode 14b, there further exists no suggestion or motivation in APA, nor to one of ordinary skill in the art to include the orientation groove 15a of APA from the first boundary between the transparent electrode 14a and reflective electrode 14b towards an exposed edge of the transparent electrode of Claims 1 and 14. Thus, Applicants respectfully submit that there exists no suggestion or motivation to modify or combine APA to teach the “second region,” the “second boundary” and the “orientation groove” of the claimed invention.

Secondly, since Kubo is silent regarding an orientation groove, let alone anything resembling an orientation groove relative to an exposed edge of the transmissive region 20 of Kubo, there exists no suggestion or motivation in Kubo, nor to one of ordinary skill in the art to include an orientation groove rubbed in a first direction from the first boundary between the transparent region 20 and the reflective region 21 towards the exposed edge of the transparent region 20 of Claims 1 and 14. Thus, Applicants respectfully submit that there exists no suggestion or motivation to modify or combine Kubo to teach the “orientation groove” of the claimed invention.

Thirdly, in the Office action at Page 6, it is alleged in the rejection details that APA in view of Kubo have the same structure with the instant invention. Applicants respectfully disagree.

For all the reasons discussed above, APA and Kubo, alone or in combination, fail to teach or suggest an orientation film having an orientation groove rubbed in a first direction from the first boundary between the first and second regions, toward the second boundary being an exposed edge of the transparent electrode of Claims 1 and 14. In fact, APA teaches contrary to the claimed invention, and Kubo is completely silent as to anything resembling an “orientation groove” of the claimed invention. Thus Applicants respectfully submit that, APA and Kubo *fail to teach or suggest all of the limitations of Claims 1 and 14*, and therefore there exists no suggestion or motivation to modify or combine APA and Kubo to teach at least the “orientation groove” claimed invention.

For purpose of clarification, Applicants respectfully note that the rejection details at Page 6 cite “a first direction toward the *second region* including the first boundary and the second boundary.” However, Claims 1 and 14 recite “a first direction from the first boundary toward the *second boundary*.”

Finally, if the orientation groove 15a of APA were combined with the transmissive region 20/21 and reflection region 22/23 of Kubo, the orientation groove 15a would only extend in a direction *towards a (first) boundary* between the transmissive region 20/21 and reflection region 22/23 of Kubo, especially since APA teaches nothing of an “exposed edge” of a transparent electrode to direct an orientation groove towards, and since Kubo is silent as to anything of an orientation groove, especially relative to an exposed edge of the transmissive region 20/21. That

is, combining APA and Kubo does not teach an orientation film having an orientation groove rubbed in a first direction from the first boundary between the first and second regions, toward the second boundary being an exposed edge of the transparent electrode of Claims 1 and 14, and in fact, teaches contrary to the claimed invention. Thus, Applicants respectfully submit that there further exists no suggestion or motivation to modify or combine APA and Kubo to teach the claimed invention, especially the "orientation groove" of Claims 1 and 14.

Since APA and Kubo, alone or combination, *fail to teach or suggest all of the limitations* of Claims 1 and 14, since APA teaches *opposite and contrary to the claimed invention*, and since combining APA and Kubo does not teach the claimed invention, but in fact teaches opposite and contrary to the claimed invention, for all the reasons discussed above, *prima facie* obviousness does not exist regarding Claims 1 and 14 with respect to APA and Kubo.

For the above stated reasons, it is respectfully submitted that the final rejection of Claims 1 and 14, and of Claims 2-7 and 15-18 as depending upon Claims 1 and 14, is in error and that the same are allowable over the art of record. The fee set forth in 37 CFR 41.20(b)(1) is enclosed herewith. However, if any fees are due with respect to this submission, please charge them to Deposit Account No. 06-1130 maintained by Applicants' attorneys. Applicants hereby petition for any necessary extension of time required under 37 C.F.R. 1.136(a) or 1.136(b) which may be required for entry and consideration of the present Reply.

Respectfully submitted,  
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